

**TANKS SOLICITATION**  
**Professional Services Questionnaire**  
**Solicitation # SCC060008**  
Arizona Department of Environmental Quality  
Contracts and Procurement Unit

Definitions:

1. “*Branch Office*” means a satellite, or subsidiary extension, of a headquarters office of a company, regardless of any differences in name or legal structure of such a branch due to local or state laws. Branch offices are normally subject to the management decisions, bookkeeping, and policies of the main office.
2. “*Consultant*” means a highly specialized individual or firm having significant input and responsibility for certain aspects of a project and possessing unusual or unique capabilities for assuring success of the finished work.
3. “*Discipline*,” means the primary technological capability of individuals in the responding firm. Possession of an academic degree, professional registration, certification or extensive experience in a particular field of practice normally reflects an individual’s primary technical discipline.
4. “*Key Persons, Specialists, and Individual Consultants*,” means those individuals who will have major project responsibility or will provide unusual or unique capabilities for the project under consideration.
5. “*Parent Company*” means firm, company, corporation, association or conglomerate which is the major stockholder or highest tier owner of the firm completing this questionnaire; i.e., Firm A is owned by Firm B which is, in turn, a subsidiary of Corporation C. The “parent company” of Firm A is Corporation C.
6. “*Prime*” means that firm which may be coordinating the concerted and complementary inputs of several firms, individuals or related services to produce a completed study or facility. The “prime” would normally be regarded as having full responsibility and liability for quality of performance by itself as well as by subcontractor professionals under its jurisdiction.
7. “*Principals*” means those individuals in a firm who possess legal responsibility for its management. They may be owners, partners, corporate officers, associates, administrators, etc.
8. “*Subcontract*” means any Contract, express or implied, between the Contractor and another party or between a subcontractor and another party delegating or assigning, in whole or in part, the making or furnishing of any material or any service required for the performance of the Contract.
9. “*Subcontractor*” means one who is awarded a portion of an existing Contract by a Contractor, esp. a general contractor. For example, a Contractor who performs environmental work typically retains Subcontractors to perform specialty work such as drilling, well installations, lab analysis, etc.

**Instructions for Filing** (Numbers below correspond to numbers contained in form):

1. Show date on which form is prepared. All information submitted shall be current and accurate as of this date.
2. Type accurate and complete name of submitting firm, its address, zip code and primary phone number.

2.1 Indicate whether form is being submitted in behalf of a parent firm or a branch office.

3. Provide date the firm was established under the name shown in question 2.
4. Enter type of ownership, or legal structure, of firm (sole proprietor, partnership, corporation, etc.)

Check appropriate boxes indicating if firm is (a) a small business concern; (b) a small business concern owned and operated by socially and economically disadvantaged individuals; or (c) Woman-owned

Note: *ARS §41-1001(19): "Small business" means a concern, including its affiliates, which is independently owned and operated, which is not dominant in its field and which employs fewer than one hundred full-time employees or which had gross annual receipts of less than four million dollars in its last fiscal year. For purposes of a specific rule, an agency may define small business to include more persons if it finds that such a definition is necessary to adapt the rule to the needs and problems of small businesses and organizations.*

5. Branches of subsidiaries of large or parent companies, or conglomerates, should insert name and address of highest-tier owner.
  - 5.1 If present firm is the successor to, or outgrowth of, one or more predecessor firms, show name(s) of entity.
  - 5.2 Year parent Company was established.
6. List not more than two principals from submitting firm who may be contacted by ADEQ. (Different principles may be listed on forms going to another agency.) Listed principals must be empowered to speak for the firm on the policy and contractual matters.
7. Show total number of employees, by discipline, in submitting office. (\*If form is being submitted by main headquarters office, firm should list total employees, by discipline, in all offices.) While some personnel may be qualified in several disciplines, each person should be counted only once in accord with his or her primary function. Include clerical personnel as "administrative." Write in any additional disciplines—geologist, archeologist, biologists, etc.—and number of people in each, in blank spaces provided.
8. Using chart (on the form) insert appropriate index number to indicate range of professional services fees received by submitting firm each calendar year for the last five years, most recent year first. Fee summaries should be broken down to reflect the fees received each year for (a) work performed directly for the State (not including grant and loan projects) or as a sub to other professionals performing work directly for the State; (b) all other domestic work, U.S. and possessions, including Federally-assisted projects, and (c) all other foreign work.
9. Select and enter, in numerical sequence, not more than six "Experience Profile Code" numbers from the listing below, which most accurately reflect submitting firm's demonstrated technical capabilities and project experience. Carefully review the list. (It is recognized some profile codes may be part of other services or projects contained on the list; firms are encouraged to select profile codes, which best indicate type and scope of services provided on past projects.) For each code number, show total number of projects and gross fees (in thousands) received for profile projects performed by firm during past five years. If firm has one or more capabilities not included on the list, insert name in blank spaces at end of list and show numbers in question 9 on the form. In such cases, the filled-in listing must accompany the complete Professional Services Questionnaire when submitted to the State.
10. Using the "Experience Profile Code" numbers in the same sequence as entered in item 9, give details of at least one recent (within the last five years) representative project for each code number, up to a maximum of five separate projects, or portions of projects, for which firm was responsible. (Project examples may be used more than once to illustrate different services rendered on the same job. Example: a dining hall may be part of an auditorium or educational facility.) Firms, which select less than five "profile codes" may list two or more project examples (to illustrate specialization) for each code number so long as total of all project examples does not exceed five. After each code number in question 10, show: (a) whether firm was "P," the prime professional, or "C," a consultant, or "SC," a Subcontractor on that particular project (new firms, in existence less than five years may use the symbol "IE" to indicate "Individual Experience" as opposed to firm experience); (b) provide name and location of the specific project which typifies firm's (or individual's) performance under that code category; (c) give name and phone

number of the owner of that project (if government agency indicate responsible office); (d) show the estimated construction cost (or other applicable cost) for that portion of the project for which the firm was primarily responsible. (Where no construction was involved, show approximate cost of firm's work); and (e) state year work on that particular project was, or will be, completed.

11. Insert the number of personnel by discipline proposed for subject contract on line (A) who will be directly involved at the Task Assignment level. While some personnel may be qualified in several disciplines, each person should be counted only once in accord with his or her primary function. Include clerical personnel as "administrative." Write in any additional disciplines—geologists, archeologists, biologists, etc. – and number of people in each, in blank spaces provided.
12. List only those projects, which the firm is currently performing under direct contract with an agency or department of the State. Exclude any grant or loan projects being financed by the Federal Government but being performed under contract to other non-Federal Government entities. We prefer that you list recent such projects. Prime consideration will be given to projects, which illustrate respondent's capability for performing work similar to that being sought. Required information must include: (a) name and location of project, (b) brief description of type and extent of services provided for each project (offeror should indicate which individual was the prime on that particular project and what role they played), (c) name of the Government agency (indicate responsible office) and name and phone number of individual to contact for reference (preferably the project manager), (d) percent complete (Indicate in this item the percentage of work completed upon filing this form), (e) total construction cost of completed project (or where no construction was involved, the approximate cost of the work) and that portion of the cost of the project for which the named firm was/is responsible.
13. List up to five projects, which demonstrate the firms competence to perform work similar to that likely to be required under this contract. We prefer that you list recent such projects. Prime consideration will be given to projects, which illustrate respondent's capability for performing work similar to that being sought. Required information must include: (a) name and location of project, (b) brief description of type and extent of services provided for each project (offeror should indicate which individual was the prime on that particular project and what role they played), (c) name of the owner of that project, and name and phone number of individual to contact for reference (preferably the project manager), (d) completion date (actual when available, otherwise estimated), (e) total construction cost of completed project (or where no construction was involved, the approximate cost of the work) and that portion of the cost of the project for which the named firm was/is responsible.
14. Respondent should provide brief resumes for key persons (only Offerors employees) expected to participate on this contract. Care should be taken to limit resumes to only those personnel and specialists who will have major project responsibilities (Professional Level III and above only). Each resume must include: (a) name of each key person and specialist and his or her title, (b) the project assignment or role which that person will be expected to fulfill in connection with this contract, (c) years of relevant experience with present firms and other firms, (d) the highest academic degree achieved and the discipline covered (if more than one highest degree, such as two Ph.D.'s, list both), the year received and the particular technical/professional discipline which that individual will bring to the contract, (e) if registered as an architect, engineer, surveyor, etc. show only the field of registration and the year that such registration was first acquired. If registered in several states, list states, and (f) a synopsis of experience, training, or other qualities, which reflect individual's potential contribution to this contract. Include such data as: familiarity with Government or agency procedures in relation to UST corrective actions, similar type of work performed in the past, management abilities, familiarity with the Arizona geographic area, etc. Please limit synopsis of experience to directly relevant information.
15. Respondent should provide an organizational chart showing the staffing and lines of authority for the key persons to be used under this contract. The relationship of key personnel to management and to support personnel should be clearly illustrated.
16. Pricing shall be provided on an all inclusive basis and shall contain the labor rate, labor benefits, payroll burden, insurance, Workman's Compensation, fees, all taxes, profit, overhead, administrative costs (including backup documentation, subcontractor administration and all other related administrative factors) and all other related cost factors.

The Hourly rates will be evaluated on the aggregate total of the hourly rates submitted. The hourly rates shall show a progression in price from level to level within the three groups e.g., Support Services, Field Services and Professional Personnel. An hourly rate must be submitted for each staff level identified in the Hourly Rate Pricing Schedule. If an hourly rate is not provided for a staff level the proposal shall be considered non-responsive.

*Note: All Hourly Rates Shall be Rounded to the nearest dollar (\$38.49 = \$38.00 or \$38.50 = 39.00).*

17. Equipment rental pricing shall be provided on an all inclusive basis and shall contain all fees (except air permits), administrative costs (including backup documentation) and all other related cost factors.

18. Through narrative discussion, show reason why the firm believes it is especially qualified to undertake the project. Information provided should include, but not be limited to, such data as: specialized equipment available for this work, any awards or recognition received by a firm or individuals for similar work, required security clearances, special approaches or concepts developed by the firm relevant to this project, etc. Respondents may say anything they wish in support of their qualifications. When appropriate, respondents may supplement this proposal with graphic material and photographs, which best demonstrate design capabilities of the team proposed for this project.

19. All information contained in the form should be current and factual.

Experience Profile Code Numbers (for use with questions 9 and 10)					
001	Abatement	023	Groundwater Sampling and Monitoring	045	Soil Vapor Extraction
002	Aerial Photograph Review	024	Hydrogeological Assessment	046	Surface Water Quality Standards
003	Air Quality Monitoring	025	Interviews	047	System Installation and Start up
004	Air Sparging	026	Investigative Derived Waste Disposal	048	System Operation and Maintenance
005	Archaeological Studies	027	Laboratory Analysis	049	Tier II Evaluation
006	Bioremediation	028	Monitored Natural Attenuation	050	Treatment System - Groundwater
007	Bore Hole Sampling and Logging	029	Monitoring Well Installation - Groundwater	051	Treatment System - Soil
008	Chain of Title Search	030	Monitoring Well Installation – Vadose Zone	052	Treatment System – Surface Water
009	Chemical Oxidation	031	Multi Phase Extraction	053	UST System Closure / Tank Pull
010	Corrective Action Plan Preparation	032	Permitting	054	Well Development
011	Cultural Resource Survey	033	Pilot Testing	200	
012	Data Evaluation	034	Pump-and-Treat Remediation	201	
013	Data / Document Management	035	Records / Document Review	202	
014	Dual-Phase Extraction	036	Remedial System Design	203	
015	Environmental Sample Collection	037	Report Preparation	204	
016	Fate and Transport Modeling	038	Research of Legal Description	205	
017	Feasibility Study	039	Risk Assessment – Health/Ecological/Toxicological	206	
018	Free Product Recovery / Removal	040	Site Investigation – Phase I	207	
019	Geologic Mapping	041	Site Investigation – Soil / Groundwater	208	
020	Geophysical Surveys	042	Site Reconnaissance	209	
021	GIS Mapping / Database	043	Soil Boring	210	
022	Groundwater Modeling	044	Soil Testing	211	

1. Date Prepared: December 23, 2005

2. Firm Name  Terranext, LLC				Business Address and Primary Phone Number 9830 S. 51 <sup>st</sup> St., Ste. A-127 Phoenix, AZ 85044 480-496-4100			
2.1 Submittal is for <input checked="" type="checkbox"/> Parent Company <input type="checkbox"/> Branch or Subsidiary Office							
3. Year Present Firm was Established  1986			4. Specify type of ownership and check below, if applicable.  a. Small Business      b. Small Disadvantaged Business      c. Women – Owned Business <input checked="" type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>				
5. Name of Parent Company, if any:			5.1 Former Parent Company Name(s), if any:  BE&K, Inc			5.2 Year Parent Company was Established:	
6. Names of not more than two Principals to contact:							
	Name		Title		Telephone Number		Fax Number
1.	Kim Martin		President		(303) 914-1700		(303) 914-1709
			E-Mail Address:		Kmartin@terranext.net		
2.	Arthur Gordon		Director		(480) 496-4100		(480) 496-4399
			E-Mail Address:		Cgordon@terranext.net		
7. Total Personnel by Discipline: (List each person only once, by primary function)							
4	Administrative	1	Ecologists		Sanitary Engineers	3	Project Manager
1	Archeologists		Electrical Engineers		Soils Engineers	1	Geological Engineer
2	Biologists	5	Environmental Engineers		Specifications Writers	1	Industrial Hygienist
3	Chemical Engineers	12	Geologists		Structural Engineers		
1	Chemists		Hydrologists		Surveyors		
3	Civil Engineers		Landscape Architects		Toxicologists		
2	Construction Inspectors	1	Mechanical Engineers		Transportation Engineers		
2	Draftsmen		Risk Assessor	5	Environmental Scientist	47	Total Personnel
8. Summary of Professional Services Fees Received: (Insert Index Number)						Ranges of Professional Services Fees “Index”	
Last five years (most recent year first)							
			2004	2003	2002	2001	2000
Direct State contract work			5	6	5	5	5
All other domestic work			1	1	1	1	1
All other foreign work			1	1	1	1	1
						1. Less than \$100,000 2. \$100,000 to \$250,000 3. \$250,000 to \$500,000 4. \$500,000 to \$1 Million 5. \$1 Million to \$2 Million 6. \$2 Million to \$5 Million 7. \$5 Million to \$10 Million 8. \$10 Million or greater	
9. Profile of Firm’s Relevant Project Experience							
	Profile Code	Number of Projects	Total Gross Fees		Profile Code	Number of Projects	Total Gross Fees
1.	024	40	\$2,300,000	4.	041	100	\$4,000,000
2.	036	40	\$660,000	5.	045	35	\$1,500,000
3.	040	1300	\$1,500,000	6.	053	25	\$200,000

10. Project Examples, Last Five Years							
	Profile Code	"P," "C," "SC," or "IE"	Project Name and Location	Owner Name	Owner Phone Number	Cost of Work	Completion Date (Actual or Estimated)
1.	024	P	West Van Buren WQARF, Phoenix, AZ	ADEQ Remedial Projects	(602) 771-2300	\$2,200,000	6/30/06
2.	036	P	Dept. of Economic Security, Coolidge, AZ	ADOA Risk Management	(602) 542-2863	\$500,000	6/30/06
3.	041	P	East Washington Fluff WQARF, Phoenix, AZ	ADEQ Remedial Projects	(602) 771-2300	\$3,500,000	6/30/06
4.	045	P	Beaver Hollow Mini-Mart, Rimrock, AZ	ADEQ State Lead Unit	(602) 771-2300	\$500,000	6/30/06
5.	053	P	Austin's Feed & Tack, Tolleson, AZ	ADEQ State Lead Unit	(602) 771-2300	\$50,000	10/31/05

11. Personnel by discipline: (List each person only once, by primary function.) Enter proposed personnel at the Task Assignment Level on line "A".

A							
A	A	A	A	A	A	A	A
1	Administrative		Ecologists		Sanitary Engineers		
	Archeologists		Electrical Engineers		Soils Engineers		
	Biologists		Environmental Engineers		Specifications Writers		
2	Chemical Engineers	4	Geologists		Structural Engineers		
1	Chemists		Hydrologists		Surveyors		
	Civil Engineers		Landscape Architects		Toxicologists		
	Construction Inspectors	1	Mechanical Engineers		Transportation Engineers		
1	Draftsmen		Risk Assessor	1	Geological Engineer	11	<b>Total Personnel</b>

12. All work by firm currently being performed directly for State Agencies. (list not more than 5 projects)

	a. Project Name and Location	b. Nature of Firm's Responsibility	c. Agency (Responsible Office) Project Managers Name & Phone Number	d. Completion Date (Actual or Estimated)	e. Estimated Cost (In Thousands)	
					Entire Project	Work for Which Firm was/is Responsible
1.	West Van Buren WQARF Remedial Investigation, Phoenix, AZ	Borehole logging, data evaluation and management, groundwater monitoring, hydrogeological assessment	K. Snyder ADEQ 602-771-2300	6/30/06	\$2,200,000	\$2,200,000
2.	Dept. of Economic Security LUST, Coolidge, AZ	CAP preparation, UST system closure, remedial system design, free product recovery, gw monitoring	Paul Carras AZ Dept. of Administration 602-542-2863	6/30/06	\$500,000	\$500,000
3.	East Washington Fluff WQARF RI/FS, Phoenix, AZ	Soil/gw investigation, air photo review, air quality monitoring, feasibility study, geophysical surveys	S. Roberts ADEQ 602-771-2300	6/30/06	\$3,500,000	\$3,500,000
4.	Beaver Hollow Mini-Mart LUST, Rimrock, AZ	Remedial system design, soil vapor extraction, well development, system install, start up, O&M, rpt prep	S. Li ADEQ 602-771-2300	6/30/06	\$500,000	\$500,000
5.	ADOT Maintenance Yard Landfill Gas Monitoring, Tucson, AZ	Air quality monitoring, data evaluation, environmental sample collection, vadose zone well installation	Pat Terry ADOT 520-838-2850	6/30/06	\$25,000	\$25,000

13. Work by firm, which best illustrates current qualifications relevant to this contract. (list not more than 5 projects)

	a. Project Name and Location	b. Nature of Firm's Responsibility	c. Project Owner's Name and Project Managers Name & Phone Number	d. Percent Complete	e. Estimated Cost (In Thousands)	
					Entire Project	Work for Which Firm was/is Responsible
1.	Dept. of Economic Security LUST, Coolidge, AZ	CAP prep, UST closure, remedial system design, free product recovery, gw monitoring, borehole sampling/ logging, data evaluation, environmental sample collection, monitor well installation, IDW disposal, hydro geological assessment	Paul Carras AZ Dept. of Administration 602-542-2863	50	\$500,000	\$500,000
2.	Grand & Glendale Aves Phase I & II ESAs and UST Closure, Glendale, AZ	Phase I ESA reports of four parcels including air photo review, chain of title, interviews, records review, Phase II ESA's consisting of soil gas surveys, soil sampling/ analysis, data evaluation, remedial cost estimating, and UST removals	Ed Green AZ Dept. of Transportation 602-712-7768	100	\$30,000	\$30,000
3.	Beaver Hollow Mini-Mart LUST, Rimrock, AZ	Remedial system design, soil vapor extraction, well installation/development system install, start up, O&M, rpt prep, borehole sampling/ logging, data evaluation, gw monitoring, IDW disposal, hydrogeo logical assessment	S. Li ADEQ 602-771-2300	80	\$500,000	\$500,000
4.	Austin's Feed & Tack UST Closure, Tolleson, AZ	Data evaluation, environmental sample collection, permitting, report preparation, UST system closure, soil testing, laboratory analysis	Mike Latin ADEQ 602-771-2300	100	\$50,000	\$50,000
5.	Former Miller Valley Exxon LUST, Prescott, AZ	Borehole sampling and logging, corrective action plan preparation, data evaluation, gw monitoring, hydro geological assessment, IDW disposal, monitor well installation and development, report preparation, site investigation	Gary Bulechek 3B Investments 480-988-2500	100	\$50,000	\$50,000

Name of Individual Arthur Gordon, RG		Title Project Manager
Personnel Classification/Level (Reference ASRAC Statement of Work Table 1) Professional Level VI		Area of Expertise Project Management, Hydrogeology
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Project Director, Project Manager, Senior Geologist		Education M.S. Geology 1977
Years of Experience 25	Years of Related Experience 25	Registrations and Certifications Held and Year Received Registered Geologist, AZ 1982

### Employment History

	Firms Name	Start Date	End Date
1.	Terranext, LLC	Feb 1999	Present
2.	Self Employed Environmental Consultant	1996	1998
3.	Earth Tech	1995	1996
4.	Malcolm Pirnie	1992	1994
5.	SCS Engineers	1988	1991
6.	Woodward Clyde Consultants	1986	1988
7.	AZ Dept. of Health Services (Env. Health Div.)	1981	1985
8.	Fenix & Scisson (Nevada Test Site)	1978	1980
9.			
10.			

#### Executive Summary of Career Highlights

Mr. Gordon has 25 years of hydrogeological and environmental experience. He has managed a wide variety of projects, including remedial investigations/feasibility studies, underground storage tank release investigation and remediation projects, environmental assessments of mining, agricultural, commercial, naval, and industrial properties, landfill and RCRA closure, and aquifer protection permitting. Project management responsibilities have included planning, scheduling, budgeting, personnel supervision, and report writing and editing

#### Representative Projects:

**Site Characterization and Corrective Action Plan Preparation, Coolidge, Arizona, Project Manager.** The characterization of this LUST site included subsurface soil sampling and analysis using a mobile laboratory, and monitor well installation and sampling. The presence of free product in one of the monitor wells necessitated the implementation of free product removal utilizing a passive free product recovery device. Based upon the findings of the site characterization report, a corrective action plan was prepared.

#### **Former Miller Valley Exxon, Prescott, Arizona**

Project Manager for LUST site characterization and corrective action plan preparation. The characterization of this LUST site included work plan preparation, and monitor well installation and sampling of both alluvial and bedrock wells. Planned and implemented the installation of monitor wells utilizing both air rotary and hollow stem auger drilling methods, managed investigative-derived waste, performed well development and groundwater sampling. A corrective action plan was then prepared.



## Brief Resume Continued

### **Camarillo Airport, Camarillo, California**

Project Manager responsible for LUST investigation at Camarillo Airport in Ventura County, California. Project required compilation of existing data, installation, sampling and slug testing of six monitor wells, evaluation of release on groundwater quality, and remedial recommendation.

### **Bulk Fuel Storage Terminal, Savannah, Georgia**

Project Manager for a hydrogeologic investigation of bulk liquid storage terminal containing 70 above-ground tanks in Savannah, Georgia. Following a review of historical storage records, ten monitoring wells were installed throughout the site to evaluate groundwater quality and flow direction. Conclusions regarding the extent and magnitude of groundwater contamination were presented.

**Remedial Investigation, West Van Buren WQARF Area, Arizona, Project Manager.** Prepared the Field Sampling and Analysis, and Quality Assurance Project Plans for the project. Planned and implemented the installation of numerous monitor wells utilizing both mud rotary and percussion hammer drilling methods, including coordinating topographic surveys of each well location, obtaining right-of-way permits from the City of Phoenix, preparing drilling specifications for the two different drilling methods, and coordinating the simultaneous drilling by two different drilling firms, traffic control plans and barricade placement, investigative-derived waste containment, geophysical logging, well development, groundwater sampling, and preparation of comprehensive reports. Also responsible for semiannual sampling of 77 monitor wells over 24 square miles.

**Early Response Action/Remedial Investigation, East Washington Fluff WQARF Registry Site, Phoenix, Arizona, Project Manager.** Managing a \$3.5 million ERA/RI of this high visibility site near downtown Phoenix, ERA tasks include plan preparation (work, field sampling, grading and drainage, and health and safety), risk assessment, boundary and topographic survey, community relations support, permitting, soil and fluff sampling, fluff excavation and disposal as a hazardous waste, solid waste removal and disposal, underground storage tank removal, design and construction of a temporary cap, and preparation of an ERA report. RI tasks included plan preparation, surface geophysical survey, Geoprobe investigation, land use evaluation, and RI report preparation. Mr. Gordon has been responsible for all aspects of this project, including client liaison, planning, scheduling, budgeting, and subcontractor selection and contracting.

**Remedial Investigation/Feasibility Study, Tucson, Arizona, Project Manager.** Developed the remedial investigation/feasibility study/remedial action plan for waste aluminum dross deposits near Davis-Monthan Air Force Base, Arizona. Specific tasks performed included an environmental assessment, surface and subsurface soil sampling, laboratory analysis, development of a three-dimensional computer model identifying the extent of contamination, risk assessment, and feasibility study. Based on the findings of the feasibility study, a remedial action plan was prepared.

**Remedial Design and Construction, PGA Superfund Site (North), Goodyear, Arizona, Senior Hydrogeologist.** Responsible for hydrogeologic aspects of remedial design and construction at TCE-contaminated ground water site. Responsibilities included quarterly groundwater monitoring, the installation of monitor wells, design and installation of injection and extraction wells for groundwater treatment, and technical negotiations with EPA.

Name of Individual Byron Schneid, PG			Title Senior Geologist
Personnel Classification/Level Professional Level V			Area of Expertise Geology, Hydrogeologic Investigation
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Project Geologist			Education M.S. Geology, 1992
Years of Experience 12	Years of Related Experience 12	Registrations and Certifications Held and Year Received Registered Geologist, AZ 1996	

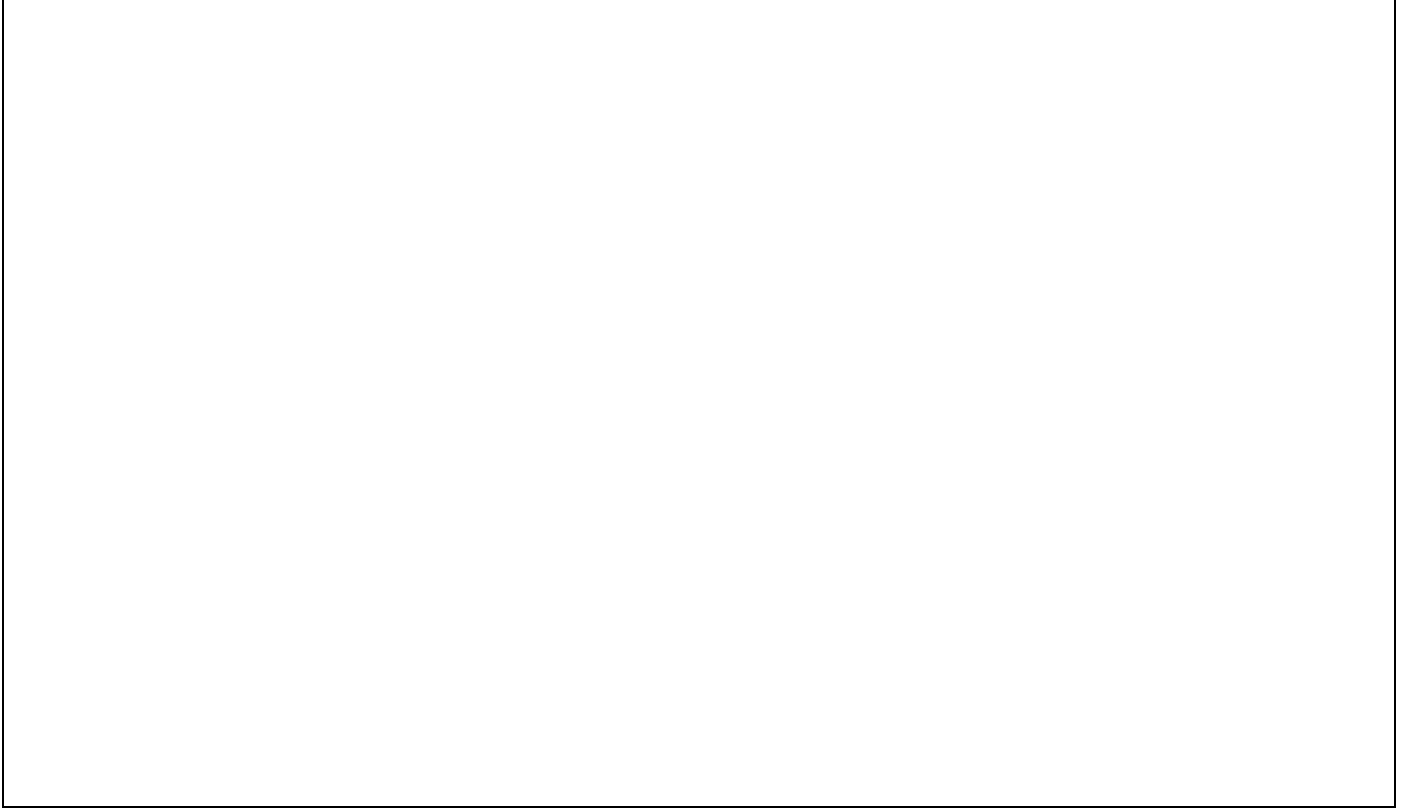
#### EMPLOYMENT HISTORY

	Firms Name	Start Date	End Date
1.	Terranext, LLC	2004	
2.	Blaes Environmental Management	2004	2004
3.	Kleinfelder	2001	2003
4.	Self	2001	2001
5.	ADEQ, UST Section	2000	2001
6.	Terrane Engineering	1999	1999
7.	Asset Environmental Services	1996	1999
8.	Environmental Technology	1996	1996
9.	Kleinfelder	1992	1996
10.			

**Executive Summary of Career Highlights** Mr. Byron Schneid has nine years of experience managing environmental projects for clients such as Mobil; Exxon; Unocal; Atchison Topeka and Santa Fe Railway Co.; Salt River Pima-Maricopa Indian Community; USF-Bestway Transportation, United Metro Materials; and Cardon since 1994. Mr. Schneid has cultivated excellent working relationships with numerous local and regional vendors, subcontractors and clients. His responsibilities have included writing proposals, contracts, and subcontracts; budget setup, tracking, and invoicing; client and regulatory interface producing a wide spectrum of regulatory reports, workplans, and ESAs; generating well logs; preparation of compliance, drilling and other permits, and graphics. He is experienced in subsurface contour mapping, hydrologic analyses and flow modeling. Mr. Schneid has assisted in training, supervision, and mentoring of several scientists, engineers, technicians and drafters. As a field geologist he has performed geologic and geotechnical surveys; soil, groundwater, and vapor sampling; water level monitoring; UST system excavations; and operation and maintenance of soil and groundwater remediation equipment.

#### Representative Experience:

**ExxonMobil Oil Corporation, Arizona.** Program manager for 31 heritage Mobil UST sites in Arizona (and one in Utah). Program management responsibilities included overseeing an approximately \$1.5M annual budget and conducting quarterly budget forecasting, writing purchase and change orders under an existing Master Services Agreement, and initiating quality assurance procedures for client-customized invoicing. Was responsible for maintaining regional client relationships including regulatory/legal/client interfacing, responding to client special requests and coordinating non-UST compliance efforts. Internal responsibilities included scheduling and load leveling of work, assisting in training and qualification of staff, providing overall quality assurance, report reviews, and implementing project management and reporting efficiency measures. Responsible for project management duties at scores of Exxon and Mobil sites, some with active remediation systems. Management duties included writing proposals and contracts, setting up projects for combined T & M and unit cost budgets and accounting, providing regulatory and client interface, and budget management; coordination and scheduling.



### Brief Resume Continued

**Salt River Pima-Maricopa Indian Community.** Prepared and reviewed proposals, reports and ESAs. Provided third-party review of regulatory reports for a wide variety of tribal and leased sites with environmental concerns. Sites concerns included hazardous material spills, illegal dumping, USTs, potential airborne contaminants, non-compliant maintenance procedures, etc. Performed environmental audits and field investigations. Assisted in training of community staff for environmental sampling and processes.

**Petroleum Contractors, Inc., Phoenix, Arizona.** Performed project management at Sky Harbor Airport jet fuel pipeline release located below taxiway. Duties included proposal and change order preparation, project setup, budget monitoring, regulatory interface, coordination and execution of field activities, waste disposal profiling, and client contact. The project was completed under budget and within 60% of the contracted time schedule.

**Arizona Portland Cement, Marana, Arizona.** Conducted surface/subsurface soil contamination investigations for a petroleum AST system failure, historic use of petroleum emulsions for roadway dust control, and potential metals impact at large multi-use facility. Supervised drilling operations, logged borings and assisted in report production.

**Caljet, Inc., Phoenix, Arizona.** Performed project management, including responsibilities for project setup, budget monitoring, and coordination of field activities and client contact. Wrote permits and contracts for subcontractor activities, quarterly groundwater monitoring reports, and a UST State Assurance Fund pre-approval workplan. Performed groundwater monitoring and sampling and wastewater disposal activities. Researched site history conditions and current activities to ascertain client responsibilities and plan future activities (possibly saving the client up to \$50,000.00).

**Cardon Oil Company, Mesa, Arizona.** Prepared successful UST State Assurance Fund pre-approval workplans for several sites. Each site typically involved multiple releases, multiple principle responsible parties, past quality issues with previous consultants, and extensive regulatory interface.

**Unocal Corporation, Arizona.** As a Field Geologist, assisted at drilling and sampling operations in many locations throughout Arizona and assisted in environmental site assessment activities. Logged soil boring and well installations. Also supervised soil disposal operations, collected samples, and provided onsite health and safety guidance at numerous sites. As a Staff Geologist, produced boring logs, graphics, and closure and site characterization reports and assisted with permitting prior to drilling and soil disposal.

**Unocal Corporation, Arizona.** As a Field Geologist, assisted at drilling and sampling operations in many locations throughout Arizona and assisted in environmental site assessment activities. Logged soil boring and well installations. Supervised pressure testing of a waste-oil UST. Also supervised excavation of UST systems and soil disposal operations, collected samples, and provided onsite health and safety guidance at numerous sites. As a Staff Geologist, produced boring logs, graphics, and LUST closure and site characterization reports from data collected for those operations and assisted with permitting prior to drilling and soil disposal. Wrote numerous contracts and coordinated subcontractor activities relevant to field activities. Wrote several successful proposals, and set up and managed several projects on an interim basis. Communicated project results to client representatives.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:			
Name of Individual Philip Wright, PE		Title Project Engineer	
Personnel Classification/Level (Reference ASRAC Statement of Work Table 1) Professional Level IV		Area of Expertise Remedial Design/Construction/Operation	
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Project Engineer		Education B.S. Mechanical Engineering, 1990	
Years of Experience 14	Years of Related Experience 14	Registrations and Certifications Held and Year Received Professional Engineer, Kansas	
<b>Employment History</b>			
	Firms Name	Start Date	End Date
1.	International Paper Company	July 1990	March 1998
2.	Engineering, Design and Testing Corporation	March 1998	January 2002
3.	Terranext, LLC	January 2003	Present
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<p>Executive Summary of Career Highlights</p> <p>Mr. Wright has over 12 years professional experience as a consulting engineer, project engineer and capital project manager. With a manufacturing background rooted in the pulp and paper industry, he has been involved in various aspects associated with the design, installation, operation and maintenance of a variety of process equipment and systems including those associated with air emissions pollution control, landfills, water treatment, wastewater treatment and spill containment. In addition, Mr. Wright has been responsible for conducting detailed technical investigations of numerous industrial and commercial incidents requiring an engineering evaluation to determine the root cause of loss. As project engineer, Mr. Wright currently evaluates the feasibility of implementing various types of electromechanical remedial systems for chlorinated solvents, petroleum hydrocarbon and nitrates impacted soil and ground water sites.</p> <p>Mr. Wright's project engineering/project management responsibilities include: develop site specific proposals, work plans and scope of work; develop investigation and remediation strategies; develop remedial design plans and prepare remedial design equipment specifications; maintain budgetary tracking and fiscal control over financial aspects of approved projects; provide construction oversight and technical support during the fabrication, construction and installation of remedial systems; supervise field installation activities of remedial systems and associated equipment, conduct start-up and commissioning activities of completed, installed remedial systems; supervise the operation and maintenance of installed soil and ground water remedial systems; and conduct routing audits of operating soil and ground water remedial systems to ensure satisfactory performance and optimize uptime.</p>			

Mr. Wright's additional professional experiences include: provided expert witness testimony and litigation support; preparation of work plans and corrective action plans; conducted peer review of engineering reports/designs; managed all aspects of capital project installations; and designed various industrial process systems.

### **Professional Experience:**

Mr. Wright manages the operation and maintenance of existing remedial systems utilizing such technology as soil vapor extraction, air sparge, liquid phase recovery and air stripper pump treat. In addition, Mr. Wright provides engineering support and technical expertise to professional staff and clientele.

Project Manager responsible for the operation and maintenance of 17 remediation sites statewide. Remedial systems include pump and treat, soil vapor extraction, air sparge and granular activated carbon technologies. Manages maintenance scheduling and budgetary requirements. Reviews operating and maintenance data to ensure system effectiveness and equipment uptime. Conducts engineering reviews of remedial systems to address maintenance concerns and enhance system performance. Maintains client contact regarding status of site activities.

Project Engineer responsible for design of systems and specification of equipment for numerous sites statewide associated with the remediation of hydrocarbon impacted soils and groundwater. Assists professional staff with determination of appropriate remedial technologies for site specific conditions. Prepares engineering design plans to identify technical system parameters and develop equipment specifications. Contacts equipment manufacturers regarding equipment selection and develops construction plans/schedules with construction contractors. Maintains client contact regarding status of site activities.

Project engineer responsible for coordinating field installation activities and providing field engineering support. Supervises field installation activities and acts as technical liaison with remotely located design engineer. Maintains client contact regarding status of site activities.

Specialized consulting in the areas of manufacturing and industrial incident, failure of mechanical components, and light and heavy vehicle accident reconstruction. Consultations routinely involved analytical investigations, manufacturing process analysis, failure analysis, vehicle acceleration and deceleration analysis, collision speed analysis, occupant motion analysis, and vehicle fire investigation.

Developed and implemented capital improvement projects as Project Manager and Project Engineer and provided technical support to maintenance and operations personnel. Experienced with continuous web process operations; stoker fired, gas, fired, and black liquor recovery boiler operation, inspection, upgrade, and repair, ASME pressure vessel inspection and repair; API 650 tank installation and API 653 tank inspection and repair; heavy rotation equipment installation, maintenance, and failure investigation; condensing and non-condensing turbine generator operation, inspection, and repair; distributive control system installation and DCS process conversion; electrostatic precipitator installation and control upgrades; coating make down, processing and application system design and installation; pump and piping system design and installation; displacement washing equipment installation and repair.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:		
Name of Individual Adam Adams		Title Project Scientist
Personnel Classification/Level (Reference ASRAC Statement of Work Table 1) Professional Level IV		Area of Expertise Chemistry, Emergency Response, Field Supervision
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Project Scientist		Education B.S., Chemistry, 1992
Years of Experience 12	Years of Related Experience 12	Registrations and Certifications Held and Year Received Corrective Action Project Manager, Texas

### Employment History

	Firms Name	Start Date	End Date
1.	Terranext, LLC	1993	Present
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#### Executive Summary of Career Highlights

Mr. Adam's experience includes site investigation and remediation of leaking underground storage tank sites associated with emergency response actions, Phase I Environmental Site Assessments, data validation and evaluation of laboratory data packages/reports, data management, database compilation, statistical analysis of data, litigation support, and project reporting.

#### Professional Experience:

Mr. Adams currently is the project manager on Terranext's Emergency Response and Supplemental Site Activities Contract (ERSSA) with the Texas Commission on Environmental Quality (TCEQ). Mr. Adams is certified with the state of Texas as a Corrective Action Project Manager (CAPM#01572) and is registered to perform corrective action services within the state of Texas.

As a project manager, Mr. Adams manages all ERSSA contract activities, including scheduling events, equipment and supply purchasing, implementation, reporting, and invoicing. The ERSSA contract involves emergency response with respect to Texas LPST sites. Site activities conducted under the ERSSA contract include LPST removal; soil vapor surveys (using direct push technology); installation of groundwater monitoring wells, vapor extraction wells, interceptor trenches, and contaminant recovery and treatment systems; routine monitoring of public and private drinking water systems; repair and replacement of hydrocarbon impacted sanitary sewer/storm water/drinking water lines; and general data collection, compilation, interpretation, and presentation. Additional duties performed under the ERSSA contract include oversight of building demolition, waste management, and site assessment. Sites include impacted creeks, sanitary sewers, drinking water lines, underground utilities, commercial facilities, and

private homes. Impacts include vapor-phase, dissolved phase, and free-phase (phase separated) product.

As an environmental scientist in the Terranext Little Rock, Arkansas office for Toxicology and Health Related Sciences, Mr. Adams was a member of the Emergency Response Team, conducted sampling on all media types, and provided extensive support for litigation projects to include Validation and QA/QC evaluation of laboratory data packages; establishment of BE&K/Terranext's Required Levels of Data Packages for Validation relative to the EPA's levels of QA/QC and Validation; technical assistance and support to senior level toxicologists in the areas of litigation, environmental risk assessment, analytical documentation, regulations, statistical evaluations and chemical analyses; and assistance to the staff Certified Industrial Hygienist as needed for on-site ambient air monitoring, evaluation of analytical results, and all other field sampling. Mr. Adams assumed the position, responsibilities, and duties of the Health and Safety Officer, as well as performing all duties of the computer administrator.

Mr. Adams has served as a member of the Arkansas Army National Guard for 15 years as a forward unit Air Traffic Control (ATC) Specialist (93C30). As a Staff Sergeant (E-6), Mr. Adams has is a rated controller in all four company facilities (RADAR, Tower, Aviation Information Center, and Tactical Towers), and served on two tours. Mr. Adams was the ATC Operations Platoon Sergeant during a six month tour of duty with the United Nations in Haiti and conducted all operations in the Port-au-Prince International Airport, as well as leading several tactical ATC operations. Mr. Adams served for 16 months on a tour of duty in Bosnia as the RADAR Chief for five months and the Tower Chief for six months. Upon his return from Bosnia, he assumed the position of ATC Chief responsible for all ATC Operations in the Company.



14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:			
Name of Individual Christopher Kinn		Title Project Geophysicist	
Personnel Classification/Level (Reference ASRAC Statement of Work Table 1) Professional Level IV		Area of Expertise Geophysics, Surface and Subsurface Assessment	
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Project Geophysicist		Education B.S., Geology (Geophysics Emphasis), 1990	
Years of Experience 13	Years of Related Experience 13	Registrations and Certifications Held and Year Received	
<b>Employment History</b>			
	Firms Name	Start Date	End Date
1.	Terranext, LLC	2004	Present
2.	CKinn Geosciences	1998	2004
3.	Layne Geosciences	1994	1998
4.	Private Contracting	1992	1994
5.	Phoenix Geosciences	1990	1992
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<p>Executive Summary of Career Highlights</p> <p>Mr. Kinn has over 13 years professional experience in geophysics and hydrogeology. Geophysical methods he has utilized in exploration include Time Domain Electromagnetic (TEM), Frequency Domain Electromagnetic (EM), Magnetotelluric (MT), Gravity, Magnetic, Direct Current (DC) Resistivity, Geothermal, Ground Penetrating Radar (GPR), and Seismic Refraction. He has performed both surface and borehole geophysical surveys exploring fractured rock and glacial deposit environments for high capacity water supply wells. He has conducted shallow geophysical surveys in underground storage tank (UST), contaminant plume and archaeology applications. Mr. Kinn has conducted numerous aquifer characterization projects that included aquifer testing, well design, and wellhead protection components.</p> <p>Mr. Kinn's Senior Geophysicist/Project Manager responsibilities include: development of site specific proposals, work plans and scopes of work; maintain budgetary tracking and fiscal control of approved projects; manage and oversight of field activities of approved projects; project development in water supply exploration and geophysical applications.</p> <p>Project Manager for state-led corrective action program contract including the assessment, delineation, and monitoring of perchloroethylene (PCE) and associated drycleaning contamination; remediation of PCE and associated drycleaning contamination; and operation and maintenance of drycleaning remediation systems at sites throughout Kansas.</p> <p>Project Manager for this state-led assessment services contract including Phase I and Phase II Targeted Brownfields Assessments (TBAs); risk based corrective (RBCA) investigations; and inventory studies for the Missouri Department of Natural Resources at sites throughout Missouri.</p>			

Project Manager for this state-led environmental services contract including the assessment, delineation, and monitoring of petroleum based contaminated sites throughout Wyoming.

Project Manager for state-led environmental services contract including the monitoring of petroleum contaminated sites throughout Colorado; closure and post-closure monitoring of landfill sites.

#### **1998-2004 CKinn Geoscience, Kansas City, Missouri**

Mr. Kinn's consulting firm provided geophysical and hydrogeological services to industry, private contractors, archeologists, city utilities and rural water districts. Some representative projects include: fracture mapping and glacial channel mapping for high capacity water supply locations; non-intrusive mapping of abandoned mine sites and potential karst features; non-intrusive mapping of underground storage tank (UST) locations; non-intrusive mapping of historic grave sites geologic logging and aquifer testing of water supply wells; soil and water sampling; soil analysis utilizing spectrum analysis (XRF) methods; monitoring well drilling, installation, and development oversight; water sampling oversight; soil sampling oversight.

#### **1994-1998 Layne Geosciences Inc. (LGI)**

As a Project Geophysicist, responsibilities included providing geophysical support to LGI offices in exploration for high capacity water wells and environmental projects. Projects he has managed include mapping of chloride contaminated groundwater; mapping buried channels; mapping fractured bedrock; mapping abandoned landfills; mapping UST locations; and mapping liner leaks at a salt processing plant. Mr. Kinn also contributed to hydrogeological projects such as aquifer testing design and analysis and wellhead protection investigations.

#### **1992-1994 Private Contracting**

As a private geophysical contractor, Mr. Kinn was involved in projects including gravity investigations for geothermal exploration, Very Low Frequency (VLF) investigations for fracture/fault mapping and total station surveying.

#### **1990-1992 Phoenix Geoscience, CSAMT Surveys, Inc.**

As a Field Geophysicist, Mr. Kinn's responsibilities included acquisition of magnetotelluric (MT) and controlled source audio magnetotelluric (CSAMT) data, knowledge of equipment and optimum array design, and presentation of field results.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:			
Name of Individual Kara Taylor		Title Staff Geologist	
Personnel Classification/Level (Reference ASRAC Statement of Work Table I) Professional Level III		Area of Expertise Site Assessment, Subsurface Investigations	
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Staff Geologist		Education B.S., Geology & Geophysics, 1996	
Years of Experience 8	Years of Related Experience 8	Registrations and Certifications Held and Year Received	
<b>Employment History</b>			
	Firms Name	Start Date	End Date
1.	Terranext, LLC	Feb. 1999	Present
2.	BRAL Environmental	Feb. 1998	Jan. 1999
3.	Geotechnical Services, Inc.	March 1997	Jan. 1998
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<p>Executive Summary of Career Highlights</p> <p>Mrs. Taylor been involved with projects related to NEPA investigations, Preliminary Assessments (PAs), Phase I Phase II Environmental Site Assessments (ESAs), Environmental Baseline Studies (EBSs), Potentially Responsible Party (PRP) Searches, a Pollution Prevention Opportunity Assessment (P20A), Storm Water Pollution Prevention Plans (SWPPPs), Brownfield Targeted Assessments (BTAs), UST removals, subsurface investigations/ assessments, site characterizations, and limited geophysical surveys. Experience includes development of proposals and work plans, invoicing, technical report writing, and data interpretation. Field responsibilities have included standard soil boring/monitoring well installation techniques using hollow-stem auger, flight auger, and rotary drilling techniques, direct-push technology, soil and ground water sampling, field screenings, nuclear densometer compaction testing, and various field and laboratory testing of soil, aggregate, concrete, gunite, and shotcrete.</p> <p><b>Professional Experience:</b></p> <p>Mrs. Taylor provides technical support in conducting field activities related to site assessments and remediation projects, including logging geologic borings, collecting and analyzing site hydrogeological data and data from soil and ground water sampling, and preparation of technical reports. She also provides project management support in the development of technical work plans, proposals, scheduling of field activities, invoicing, report preparation, and report review.</p> <p>Geologist conducting PRP Searches at two facilities located in southeast Kansas and performing BTAs at three facilities in eastern Kansas. Primary responsibilities for PRP Searches include obtaining a concise operational history of the sites, identifying PRPs, the nature of activities of various operators, hazardous</p>			

substances released, and compiling all information gathered into final reports. Primary responsibilities for BTAs include preliminary site reconnaissance followed by site investigation activities, including geoprobe investigations and soil and ground water sample collection.

Geologist conducting various investigations at Missouri Army National Guard facilities throughout Missouri. Primary responsibilities included obtaining all necessary historical information, contacting state, county and local officials regarding the condition of the property or properties in question, conducting interviews with persons knowledgeable of the site, performing site reconnaissance, and compiling all collected information into final reports.

Geologist conducting multiple Phase I ESAs at various state facilities throughout Missouri. Primary responsibilities included obtaining all necessary historical information, contacting state, county, and local officials regarding the condition of the property or properties in question, conducting interviews with persons knowledgeable of the site, performing a site reconnaissance, and compiling all collected information into final reports.

Geologist overseeing UST removals, soil boring and monitoring well installation, development, and sampling. Primary responsibilities included logging soil cuttings, performing field screenings, collecting soil samples, developing and sampling monitoring wells, submitting soil and water samples to an accredited laboratory for analysis, and completing project reports.

Geologist overseeing UST removals, soil boring and monitoring well installation, development, sampling, and emergency response on behalf of a major petroleum retailer. Primary responsibilities included negotiating with third parties, logging soil cuttings, performing field screenings, collecting soil samples, developing and sampling monitoring wells, submitting soil and water samples to an accredited laboratory for analysis, and completing project reports.

Environmental geologist conducting a NEPA Investigation in conjunction with a Phase I ESA on multiple residential site in Grandview, Missouri. Primary responsibilities included researching necessary historical, ecological, and biological information, including contacting state, county, and local officials, conducting interviews, performing site reconnaissance, and compiling information collected into a report.

Environmental geologist conducting various Phase I ESAs throughout the Kansas City Metropolitan area. Primary responsibilities included obtaining all necessary historical information, contacting state, county, and local officials regarding the condition of the property or properties in question, conduction interviews with persons knowledgeable of the site, performing a site reconnaissance, and compiling all collected information into final reports.

Field geologist assisting Ecology and Environment, Inc. in well development, subsurface investigation, and well installation into three separate aquifer systems to determine the extent of trichloroethylene (TCE) present at the former military air field located in Herington, Kansas. Primary responsibilities included well development utilizing pumps and bailers, conducting ground water field screenings, collecting core cuttings, and logging soil and rock cores.

Field geologist assisting in monitoring well installation, development, and sampling at various sites throughout eastern Kansas. Primary responsibilities included logging soil cuttings, performing field screenings, collecting split spoon samples, developing and sampling monitoring wells, submitting soil and water samples to an accredited laboratory for analysis, and completing project reports.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:			
Name of Individual Richard Rao		Title Chemical Engineer	
Personnel Classification/Level (Reference ASRAC Statement of Work Table 1) Professional Level V		Area of Expertise Air Quality, Permitting, Risk Assessment	
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Senior Scientist		Education B.S., Chemical Engineering	
Years of Experience 30	Years of Related Experience 30	Registrations and Certifications Held and Year Received	
<b>Employment History</b>			
	Firms Name	Start Date	End Date
1.	Terranext LLC	6/1998	Present
2.	Foster Wheeler Environmental Corporation	2/ 1995	2/1998
3.	Enserch Environmental Corporation	6/1993	2/1995
4.	Ebasco Services Incorporated	1/1981	6/1993
5.	Research-Cottrell Inc.	1/1975	1/1981
6.	NL Industries	1/1973	1/1975
7.	Ebasco Services Incorporated	1/1972	1/1973
8.	Joy Manufacturing Western Precipitation Division	1/1970	1/1972
9.	Johns-Manville	6/1969	1/1970
10.	Chemical Construction Corporation	6/1966	6/1969
<p>Executive Summary of Career Highlights</p> <p><b>Summary</b>  Thirty years experience in management and performance of environmental engineering, process safety management, pollution control and risk assessment work in power and other industries. Extensive experience in development of Risk Management Plans under 112-r and NJDEP TCPA regulations, having developed over 36 Risk Management Plans.</p> <p><b>Industrial Experience</b> - Thirty years in construction and project management, consulting/environmental engineering, engineering design, process safety management, regulatory affairs, product management/ business plans, investment analysis.</p> <p><b>Project/Construction Management</b> - Managed profitable projects for multi-million dollar capital improvements including engineering and design, developing, purchase specifications and contract documents, solicitation of bidders and evaluation of proposals, contract negotiations, and management of contracts, establishing and managing project goals, budgets and schedules.</p> <p><b>Expertise</b> - environmental control technologies (air, water and waste), process safety management/reliability/risk assessment, combustion technologies, BACT analysis, financial analysis, project scheduling, contracts and negotiations, marketing, business plans and management. Performed numerous studies concerning application of air pollution control technologies (SCR, Scrubbers, ESP, etc.) on power plants, incinerators, chemical &amp; industrial operations. Marketed and sold control technologies / systems. Technologies include electrostatic precipitators, fabric filters, high energy wet scrubbing systems, dry and wet scrubbing systems, Denox and carbon adsorption systems for emission reduction of particulate, sulfur dioxide, NOx, VOC and air toxic emissions. Conducted field sampling</p>			

programs.

**Regulatory Affairs** - environmental regulatory affairs (site assessments, audits, licensing/permits, compliance plans, One Plan, Risk Management Plans)...hosting technical seminars for position statements, working with lobbyist groups and industrial organizations at federal, state and local levels.

### **Representative Project Experience**

**Novartis, Director of Environmental Engineering** – Managed development of Title V Permit Application utilizing RADIUS for production facilities. Application included many batch processes and facility emission units.

**Sidmak Laboratories, Director of Environmental Engineering** –Managed installation of control systems for VOC emission reductions including both non and chloride organic substances, evaluated alternative technologies, developed bid specification, solicited and evaluated bidders (two technologies), and managed contract for turnkey installation.

**Consolidated Edison of New York, Inc., Project Manager** – Managed the development of 36 Risk Management Plans and their submittal to the New York City DEC. Conducted Field Investigations and Document Reviews at eight operating steam-electric generating Con Edison Facilities and managed the investigations of 28 Substation and other facilities. Performed evaluations for hazardous chemicals in compliance with the New York City Community Right-To-Know Regulations under SARA Title III federal regulations. Conducted successful negotiations with NYCDEC regarding HAZOP requirements. Prepared final documents on schedule, within budget, and with minimal regulator comments.

**Arizona P.S. Cholla Station, Unit Nos. 2 & 3 (500 MW)** – Responsible for conceptual air quality control system (AQCS) study including capital investment cost estimate, preparation of permit document, and expert testimony before state of Arizona.

**Minnesota P&L Clay Boswell Station, Unit No. 4 (500 MW)** – Evaluated fly ash scrubber followed by SO<sub>2</sub> removal versus "hot" precipitators followed by SO<sub>2</sub> removal / Pre-Contract Manager.

**Arizona P.S. Cholla Station, Unit No. 4 (350 MW)** – Managed proposal and negotiated contract for FGD system/Pre-Contract Manager.

**Sidmak Laboratories, Project Manager** -- Responsible for technology assessment and selection, design, engineering, development of technical and commercial contract purchase specifications, solicitation of bidders, evaluation of bids, and turnkey installation (including payments for work in progress) for a VOC Control System encompassing two technologies (thermal oxidation and carbon adsorption) for many emission sources. Directed work related to the preparation of Work Plans, implementation of a field investigation program including investigation of a site contaminated with solvents and petroleum products, possible leakage from underground storage tanks, and preparation of a report describing the results of the field investigation with recommendations for remedial actions. Personal involvement in negotiations and meetings with state regulatory agencies regarding the scope of work, and permit limits for the design of treatment systems. Work was performed on schedule and within budget.

14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:			
Name of Individual Luca DeAngelis		Title Project Geologist/Engineer	
Personnel Classification/Level (Reference ASRAC Statement of Work Table I) Professional Level III		Area of Expertise Modeling, Hydrogeology	
Proposed Project Role (e.g. Project Manager, Project Engineer, Project Hydrologist, ect.) Project Geologist/Engineer		Education B.S. Geological Engineering	
Years of Experience 9	Years of Related Experience 9	Registrations and Certifications Held and Year Received Professional Engineer, Kansas Registered Geologist, Missouri	
<b>Employment History</b>			
	Firms Name	Start Date	End Date
1.	Terranext	2005	
2.	Chatman & Associates	2004	2005
3.	URS Corp	1999	2004
4.	BE&K/Terranext	1998	1999
5.	Burns & McDonnell	1997	1998
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<p>Executive Summary of Career Highlights</p> <p>Mr. DeAngelis has 9 years of experience in the environmental and water supply industries specializing in geological engineering and hydrogeology. He is both a professional engineer and registered geologist (by the ASBOG exam). Mr. DeAngelis has conducted numerous aquifer characterization projects that included: supply well design, well field design, aquifer testing, safe yield studies, well capacity estimates, and wellhead protection area delineation. Additional areas of expertise include: numerical groundwater modeling, remedial design investigations, design, operation, and maintenance of containment pumping systems, and pilot testing/design for soil vapor extraction/air sparge systems. He has been responsible for project management, client interfaces, scheduling, and cost estimating.</p> <p>Lead Groundwater Modeler responsible for developing a numerical groundwater flow model (MODFLOW) to manage the day to day operating scenarios of a 52-MGD water supply well field in Omaha, Nebraska. Project responsibilities included data acquisition, model development, and report preparation. Detailed review of the model was provided by the USACE Omaha and Kansas City Districts, USACE Center of Expertise, USEPA Region 7, USEPA Center of Subsurface Modeling Support, HDR, Inc., Nebraska Department of Environmental Quality, and the public. Comment responses and resolutions were developed and incorporated into future modeling phases.</p> <p>Project Manager and Lead Hydrogeologist for a well field development project in York, Nebraska. Responsibilities included general hydrogeology support services for evaluating potential well field sites near the City of York and development of a six-layer numerical model of the High Plains Aquifer.</p>			

### **Brief Resume Continued**

Numerical modeling was used to delineate well field capture zones and estimate impact on other water users.

Project Manager and Lead Hydrogeologist for a well field development project near Vermillion, South Dakota, which utilized direct infiltration from the Missouri River. Responsibilities included general hydrogeology support services, including well siting, well design, pump testing, and well field location delineation. Other responsibilities included development of a numerical model to estimate the sustainable yield of the well field.

Project engineer responsible for the design installation and testing of a groundwater/free product recovery system at a refinery in Catlettsburg, KY, which consisted of 34 permanent pumped wells. Developed construction plans and specifications for the recovery wells, which included well installation, development, and testing procedures. Oversaw the installation, development and testing of the recovery wells.

Project Hydrogeologist responsible for developing a numerical groundwater flow model using MODFLOW to estimate the baseflow contribution of the aquifer to a bordering river for a refinery near Catlettsburg, KY. The project involved collecting all data necessary data for input into the groundwater flow model, which included the analysis of slug tests, development of monthly potentiometric surface maps, review of meteorological data, and review of river stage data.

Project Hydrogeologist for the Former Nebraska Ordnance Plant USACE Superfund Site, near Mead, NE. Responsibilities included:

- Developed a numerical groundwater flow (MODFLOW) and transport (MT3DMS) to evaluate the affect of a proposed 50-MGD water supply well field on the dissolved phase plumes at the Mead Superfund Site.

- Developed a numerical groundwater flow (MODFLOW) and transport (MT3DMS) model to evaluate the effect of groundwater circulation wells (GCWs) on contaminant mass removal at the site. Project deliverables included a report which was accepted by the USEPA and NDEQ.

Assisted lead groundwater modeler in developing a groundwater flow (MODFLOW) and transport (MT3DMS) model for the USACE Superfund Site located in Hastings, NE. The objective of the study was to evaluate the effectiveness of different well configurations in removing contaminant mass from an underlying aquifer. Project deliverables included a report which was accepted by the USEPA and NDEQ.



14. Brief resume of key persons, specialists and individual consultants/associates anticipated for this contract:			
Name of Individual Charles Churchman		Title Senior Engineer	
Personnel Classification/Level <i>(Reference ASRAC Statement of Work Table 1)</i> Professional Level VI		Area of Expertise Remedial Engineering	
Proposed Project Role <i>(e.g. Project Manager, Project Engineer, Project Hydrologist, ect.)</i> Project Manager, Senior Engineer		Education B.Ch.E Chemical Engineering	
Years of Experience 35	Years of Related Experience 35	Registrations and Certifications Held and Year Received Professional Engineer, Arizona 2004	
<b>Employment History</b>			
	Firms Name	Start Date	End Date
1.	Terranext	March 2004	Present
2.	Bondo Corp.	August 2003	November 2003
3.	AMEC Corp.	June 2000	March 2003
4.	Lockwood Greene	June 1998	June 2000
5.	Simons Engineering	November 1987	June 1998
6.	Kinetics Consulting	November 1985	November 1987
7.	Southrep	November 1984	November 1985
8.	Computer Task Group	November 1982	November 1984
9.	Link Simulation	June 1980	June 1982
10.			
<p>Executive Summary of Career Highlights</p> <p>Mr. Churchman has 35 years experience in remediation, chemical process plant design, process control and simulation, operations, plant process troubleshooting and air/water pollution control. He has a strong foundation in both the classic and latest state of the art engineering tasks as follows:</p> <ul style="list-style-type: none"> <li>• Air sparge/soil vapor extraction, bioremediation</li> <li>• Simulation of processes and equipment, including steady state and dynamic simulation, batch and continuous processes;</li> <li>• Process flow diagrams and equipment lists; Piping and instrument diagrams, including process control sensor and instrumentation selection and design;</li> <li>• equipment and piping specifications and datasheets;</li> <li>• selection of materials of construction;</li> <li>• specialty items; instrument data sheets; line lists;</li> <li>• extensive field experience in plant troubleshooting during startups and operation, including operating manuals, operator training, commissioning, water testing and field modifications;</li> <li>• Hazardous operations and facilitation;</li> <li>• field testing of existing plants using advanced analytical methods, instruments, and proprietary techniques for debottlenecking.</li> <li>• Air/water pollution control equipment design, installation and startup</li> </ul>			

## Brief Resume Continued

### Professional Experience:

Lead Engineer on Pollution Prevention Opportunity Assessment (P2OA) and Pollution Prevention Assessment Plan(P2P) for the Missouri Army National Guard (MOARNG) in 2004.

Lead engineer on air sparge/SVE/Bioremediation system design for BETX removal, Atlanta, Georgia

Lead engineer on air sparge/SVE system design for BETX removal, Denver, Colorado

Lead engineer on modifications/upgrades to air sparge/SVE/pumping system for BETX removal at UST site in Dallas, Georgia.

Performed on-site stack sampling and analysis for fertilizer blend plants located in five states, supervising two technicians. Also performed preliminary process and project engineering for new pollution control facilities in an ammonia plant in Alabama.

Consulting process chemical engineer working in plastics, industrial energy conservation, ventilation and HVAC, hazardous waste, energy audits/projections for new plant expansions in fibers, and PC-based control systems for data acquisition and process control. Specialized in the development of problem-specific solutions to complex and difficult process-oriented projects; past solutions have been cost-effective alternates to conventional approaches, particularly in energy.

Lead process engineer on the preliminary design of two fluidized bed, wood gasification, commercial scale facilities in Georgia and New York. Based on Technical Design package described below. Facilities convert construction debris into a fuel gas suitable for direct use in gas turbines. Liaison between process licensor and engineering disciplines, generation of process flow diagrams, P&IDs, equipment and piping specifications, utility infrastructure, and plant layouts.

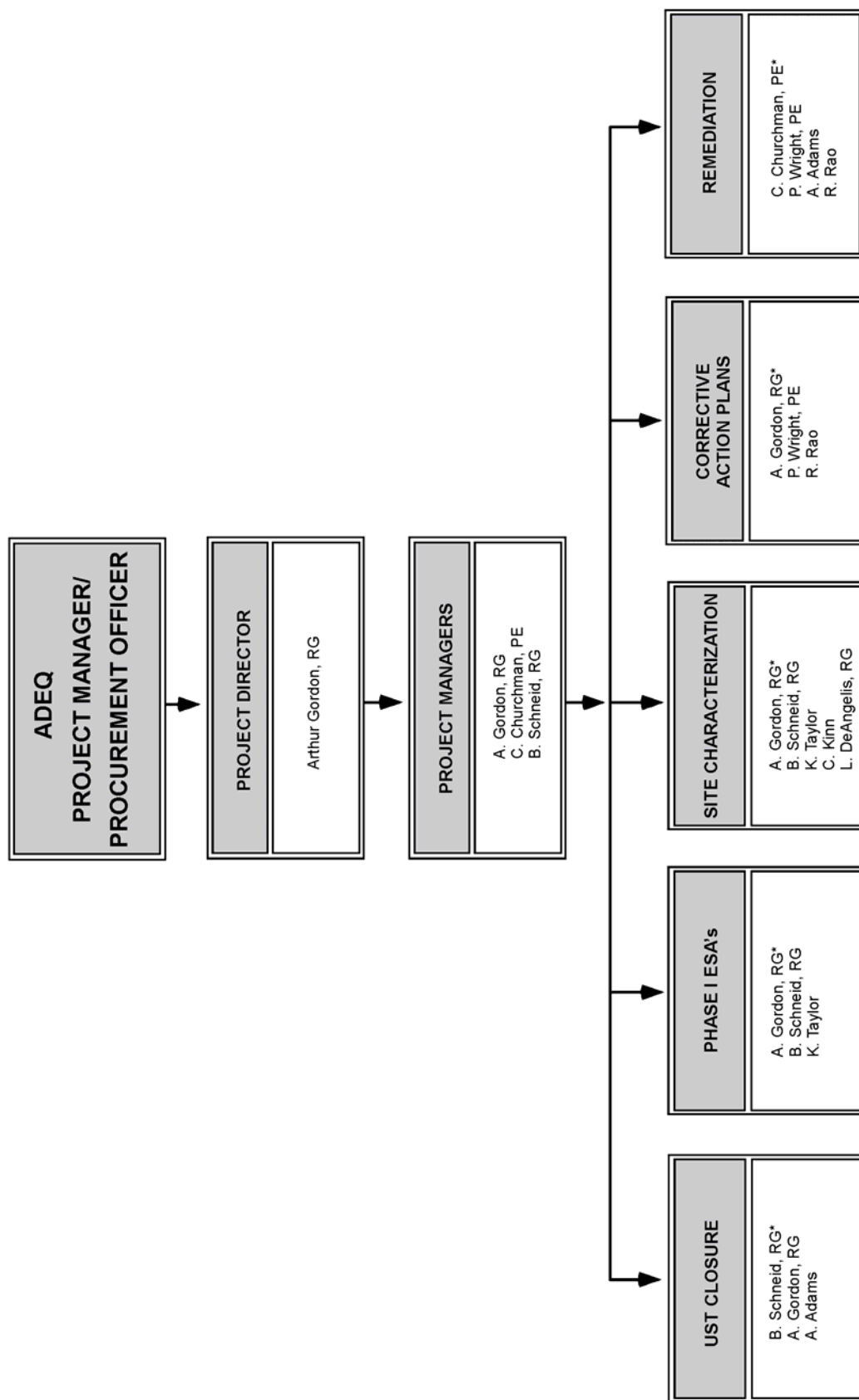
Lead process engineer on conceptual design of a 12 megawatt energy storage facility at a U.S. Air Force base, including conversion of specifications and drawings from UK metric versions to USA specification standards and units, and modifications/upgrades to P&IDs. Project turned over to another senior engineer in a second project landed due to the success of the conceptual design.

Lead process engineer developing a Technical Design Package to be licensed, created for R&D firm marketing a new "green" wood gasification process to convert landfill construction debris to electricity, while reducing the landfill requirements by over 90%.

Developed heat and material balances, PFDs, P&IDs, equipment specifications and datasheets, and process descriptions. Detailed equipment design was also developed for the primary process equipment and equipment internals, to include finite element stress analyses for pressure and thermal loadings.

Field assignment at a client site, creating a Technical Design Package for chemical R&D firm developing a process to convert municipal sewage sludge to a NO<sub>x</sub> reduction fuel supplement for fired processes such as cement kilns. Package included process descriptions, Excel-based automated heat and material balances, PFDs and P&IDs, odor control technology, equipment specifications and drawings, scientific literature searches, and estimates for capital costs and O&M costs.

**FIGURE 1 PROJECT ORGANIZATION CHART**



\* Denotes Task Manager

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16. Complete the Pricing Schedule in its entirety.		
Support Services	Minimum Responsibilities, Qualifications and Education	Base Hourly Rate
<b>Support Level I (Word Processor)</b>	Responsibilities: Clerical, word processing, filing, general administration. Qualifications: Entry level, no experience restriction. Education: No education restriction.	<b>\$ 35. 00</b>
<b>Support Level II (Admin Assistant)</b>	Responsibilities: Drafting, project manager's assistant, graphics. Qualifications: 1 - 2 years experience. Education: No education restriction.	<b>\$ 40. 00</b>
<b>Support Level III (Technical)</b>	Responsibilities: Drafting supervisor, administrator supervisor, Senior Word Processor. Qualifications: 2 - 4 years experience. Education: No education restriction.	<b>\$ 45. 00</b>
Field Services	Minimum Responsibilities, Qualifications and Education	Base Hourly Rate
<b>Field Services Level I</b>	Responsibilities: Closely supervised; conducts routine heavy labor during equipment installations; sampling/gauging, equipment maintenance. Qualifications: Entry level, 1 - 2 years of experience. Education: No education restriction.	<b>\$ 35. 00</b>
<b>Field Services Level II</b>	Responsibilities: Limited supervision; occasional heavy labor; sampling/gauging, equipment installations, operations, troubleshooting. Qualifications: 2 - 4 years of experience. Education: No education restriction.	<b>\$ 40. 00</b>
<b>Field Services Level III</b>	Responsibilities: Supervises on-site tasks such as system installations and operations, trouble shooting; technical advisor. Qualifications: 5 - 7 years of experience. Education: No education restriction.	<b>\$ 45. 00</b>
<b>Field Services Staff (Field)</b>	Responsibilities: Limited supervision; experience specific to Scope of Work, independent field work and/or specialist. Qualifications: 7 - 9 years experience/special knowledge or expertise in field. Education: No education restriction.	<b>\$ 50. 00</b>
<b>Field Services Manager</b>	Responsibilities: Overall supervision of field services staff; works with Project Managers on scheduling and coordination. Qualifications: 7 - 9 years of experience. Education: Bachelor of Science (BS) degree in applicable field of study or 15 plus years experience.	<b>\$ 57. 00</b>
Professional Personnel *	Minimum Responsibilities, Qualifications and Education	Base Hourly Rate
<b>Professional Level I</b>	Responsibilities: Close supervision, routine tasks associated with environmental projects. Qualifications: 1 - 2 years of experience. Education: Bachelor of Science (BS) degree.	<b>\$ 57. 00</b>
<b>Professional Level II</b>	Responsibilities: Collects and interprets data, report writing, provides project input. Qualifications: 2 - 4 years of experience Education: Bachelor of Science (BS) degree.	<b>\$ 67. 00</b>
<b>Professional Level III (Staff)</b>	Responsibilities: Limited supervision, independent fieldwork, oversees Professional Levels I and II. Qualifications No. 1: 4 - 6 years of experience with Bachelor of Science (BS) degree. Qualifications No. 2: 1-2 years of experience with Masters degree.	<b>\$ 77. 00</b>
<b>Professional Level IV (Project)</b>	Responsibilities: Manages projects of moderate scope, prepares cost estimates, supervises others. Qualifications No. 1: 6 - 8 years experience with Bachelor of Science (BS) degree or registration (PE or RG). Qualifications No. 2: 3 - 4 years of experience with Masters degree.	<b>\$ 87. 00</b>
<b>Professional Level V (Senior)</b>	Responsibilities: Senior technical leader for environmental projects, QA of Project Plans, report review. Qualifications: 8 or more years of experience. Education: Advanced degree in field or registration (PE or RG).	<b>\$ 97. 00</b>
<b>** Must meet both the experience &amp; education requirements **</b>		
<b>Professional Level VI (Principle)</b>	Responsibilities: Recognized registered professional, resident expert, expert testimony, QA of Project Plans and report review and/or Oversees and coordinates all levels of personnel, senior technical leader and has signature authority. Qualifications No. 1: 5 or more years in field project formulation, survey, excavation and technical reporting experience. Education No. 1: Doctorate degree and registration as PE or RG or Doctorate degree in Risk Assessment or Toxicology . Qualifications No. 2: 12 or more years of experience. Education No. 2: Advanced degree in field and registration as PE or RG or Advanced degree in Risk Assessment or Toxicology. Qualifications No. 3: 20 or more years in field project formulation, survey, excavation and technical reporting experience. Education No. 3: Bachelor of Science (BS) degree in applicable field of study.	<b>\$ 100. 00</b>
<b>** Must meet both the experience &amp; education requirements **</b>		
*	There will be multiple technical disciplines that will fall under the descriptions of each professional level. A geologist, engineer, public involvement specialist, or environmental scientist with one year environmental experience would each fall under a Professional Level I.	
<b>Aggregate Hourly Rate Total:</b>		<b>\$ 832. 00</b>

17. Complete the Rental Equipment Pricing Schedule in its entirety.			
Equipment Name	Price Per Day	Price Per Week	Price Per month
Air Sparge Compressor $\leq$ 15psi	\$ 40. 00	\$ 250. 00	\$ 1,000. 00
Air Sparge Compressor $\geq$ 15psi	\$ 45. 00	\$ 300. 00	\$ 1,200. 00
Bladder Pump	\$ 110. 00	\$ 440. 00	\$ 1,600. 00
Centrifugal Pump	\$ 35. 00	\$ 140. 00	\$ 500. 00
Combustible Gas Indicator (CGI)	\$ 90. 00	\$ 360. 00	\$ 1,400. 00
Depth Specific Sampler	\$ 20. 00	\$ 80. 00	\$ 240. 00
Disposable Bailer (each)	\$ 12. 00	NA	NA
Dissolved Oxygen Meter	\$ 35. 00	\$ 140. 00	\$ 600. 00
Electric Catalytic Oxidizer $\leq$ 250cfm	\$ 150. 00	\$ 1,025. 00	\$ 4,000. 00
Flame Ionization Detector (FID)	\$ 115. 00	\$ 575. 00	\$ 2,000. 00
Flow Through Cell	\$ 30. 00	\$ 100. 00	\$ 350. 00
Generator $\leq$ 6kw	\$ 65. 00	\$ 260. 00	\$ 950. 00
Hand Auger w/Slide Hammer Sampler	\$ 50. 00	\$ 200. 00	\$ 750. 00
Interface Probe – Oil/Water	\$ 60. 00	\$ 240. 00	\$ 900. 00
Lower Explosive Limit/Oxygen Meter (LEL/O2)	\$ 90. 00	\$ 360. 00	\$ 1,400. 00
Peristaltic Pump	\$ 35. 00	\$ 140. 00	\$ 500. 00
Photoionization Dectector (PID)	\$ 90. 00	\$ 360. 00	\$ 1,400. 00
pH Temperature and Conductivity Meter	\$ 35. 00	\$ 120. 00	\$ 450. 00
Portable Flow Meter - Water	\$ 20. 00	\$ 80. 00	\$ 240. 00
Portable Pilot Test Unit (includes trailer, anemometer, blower/compressor, vacuum/pressure gauges, pitot tubes, generator, miscellaneous fittings, power cords and plugs.			
AS Pilot Test Unit	\$ 195. 00	\$ 700. 00	\$ 2,500. 00
SVE Pilot Test Unit	\$ 195. 00	\$ 700. 00	\$ 2,500. 00
Pressure Transducer, Cable and Data Logger	\$ 140. 00	\$ 550. 00	\$ 1,600. 00
Submersible Pump w/Controller	\$ 120. 00	\$ 480. 00	\$ 1,800. 00
Thermal/Catalytic Oxidizer 250cfm	\$ 150. 00	\$ 975. 00	\$ 3,900. 00
Thermal/Catalytic Oxidizer 500 cfm	\$ 195. 00	\$ 1,125. 00	\$ 4,400. 00
Vehicle	\$ 75. 00	\$ 300. 00	\$ 1,000. 00
Water Level Indicator	\$ 35. 00	\$ 120. 00	\$ 450. 00

18. Use this space to provide any additional information or description of resources (including any computer design capabilities) supporting your firm's qualifications for the proposed contract.

The Phoenix office of Terranext is highly experienced in performing Tank-related services in Arizona. We have been an active ADOA tanks contractor since the inception of this contract. Five major general activities have been identified in the solicitation: UST closure, Phase I ESAs, site characterization, corrective action plans, and remediation. Specific Terranext experience in these areas includes:

**UST Closure:** Terranext has performed the following UST closures in Arizona over the past 1.5 years: Austin's Feed & Tack (Tolleson), Sander's Market (McNeil), Fourth Street Station (Benson), Martinez Lake Resort (Martinez Lake), the University of Arizona (Tucson), and ADOT (Glendale). These projects were managed by either Arthur Gordon or Byron Schneid.

**Phase I ESAs:** Terranext has performed the following Phase I ESAs in Arizona in 2005: Austin's Feed & Tack (Tolleson), Town of Wellton (Wellton), 7430 E. Butherus (Scottsdale), 2701 W. McDowell (Phoenix), 344 S. Power Road (Mesa), McLain Street Facility (Scottsdale), Scottsdale Air Center (Scottsdale), and 2560 E. Main (Mesa). These projects were managed by Mr. Arthur Gordon.

**Site Characterization/Investigation:** Terranext has/is performing the following site characterizations/investigations in Arizona over the past few years: BIA (Poston), R&B Express Mart (Ajo), ADOT (Tucson), Old McCulloch Facility (Lake Havasu City), ADOT (Glendale), Yavapai College (Prescott), La Siesta Alliance (Wickenburg), West Van Buren Area (Phoenix), Dept. of Economic Security (Coolidge), The Other Store (Prescott), Mohave Wash (Kingman), Ernie's Garage (Coolidge), East Washington Fluff Site (Phoenix), McGuireville Mini-Mart (Rimrock), Beaver Hollow Mini-Mart (Rimrock), Department of Public Safety (Wenden), 3-B Investments (Prescott), and Maricopa County (Avondale). Most of these projects have been managed by either Arthur Gordon or Byron Schneid.

**Corrective Action Plans:** Terranext has prepared the following corrective action plans over the past few years which were approved for implementation by ADEQ: 3-B Investments (Prescott) and Dept. of Economic Security (Coolidge). Both of these projects were managed by Mr. Arthur Gordon.

**Remediation:** Terranext has implemented or overseen remedial activities at the following sites in Arizona over the past few years: Dept. of Economic Security – Coolidge (SVE/air sparge ongoing by Terranext), Dept. of Public Safety – Yuma (SVE completed), ADOT – Prescott (excavation completed), East Washington Fluff Site – Phoenix (excavation completed), Gila River Indian Reservation – Coolidge (excavation completed), McGuireville Mini-Mart – Rimrock (feasibility study just completed), Beaver Hollow Mini-Mart – Rimrock (SVE ongoing by Terranext), ALSCO – Phoenix (SVE/air sparge/groundwater extraction & treatment completed), Phoenix-Goodyear Airport – Goodyear (excavation completed), Former Shell Station – Wenden (SVE completed). Messrs. Arthur Gordon and Byron Schneid have either managed or worked as senior geologists on all of these projects.